

III. REMARKS

1. Claims 14, 17, 20, 28, 32, 34 36, 39, 42, 44, 51, 54, 56, 58, 61, 64, 67, 70, 72 and 73 are amended. Claims 15, 19, 21-23, 26, 27, 33, 35, 38, 43, 46-50, 55, 57, 60 and 66 are cancelled without prejudice.

2. Claims 14, 18, 28-29, 31-32, 39-41, 42, 45, 51, 53-54, 61-65, 70 and 73 are not unpatentable over Watanabe (U.S. Patent No. 6,310,897) in view of Anderson et al. ("Anderson") (U.S. Patent No. 6,026,506) under 35 U.S.C. §103(a).

Applicant's invention according to claims 14, 42 and 64 recites the feature of "adding error location information to the demultiplexed signal, the error location information indicating the location of erroneous bits in the demultiplexed signal." This is not disclosed by Watanabe in view of Anderson.

Watanabe discloses an information transmission method for video signals wherein a transmission side transmits reconstruction information required to reconstruct contents of header information or part of the information. The reconstruction information is implemented, for instance, by repeating parts of frame layer header information on the slice layer. Furthermore, the reception side performs an error check with respect to the header information or part of the header information and decodes the encoded information by using the reconstruction information as a substitute when an error is detected by the error check. Watanabe departs from the present invention. In Watanabe, designation information is inserted in the bit stream before the transmission (column 2, lines 55-65). Furthermore, the purpose of Watanabe is to ensure reconstruction of header information at the receiving

end even if an error is introduced in the bit stream. Watanabe departs from Applicant's invention as claimed, which assumes that no such redundant information is available for the receiving end.

Anderson discloses a method and apparatus for processing a data stream. Errors are concealed in the data stream by detecting loss or interruption of data delivery and signaling decoders to invoke error concealment. The method is applied, for example, in MPEG-2 decoding devices. The errors to be concealed comprise, for example, continuity count errors for the continuity counter, which is transmitted as part of the transport stream packets, bursts of errors in consecutive transport packets and complete loss of the transport stream where data delivery stops. Anderson teaches that as packets are stored in the DRAM of a back-end processor memory, a packet flag field is stored in association with each packet. The packet flag field comprises an error bit by means of which an error can be signaled to decoders (column 9 rows 43-47). Anderson discloses a method of error concealment that the decoder may hold the last video frame or audio sample and repeat it until the transport stream is restored. Anderson fails to disclose that the actual location of erroneous bits is indicated in the demultiplexed signal as recited in claim 14.

The error recovery mechanisms used by Anderson's system all rely on discarding erroneous data. This results in a situation where none of the erroneous data is forwarded to the decoders for decoding and limits possible error correction/concealment measures to actions such as freezing of the decoder output or repeating the last frame until new error-free data is received. Nowhere does Anderson state

explicitly or implicitly that any other, more sophisticated, error correction operation can be performed and therefore provides no details concerning how error indications provided to the decoders could be used.

The approach adopted by the present invention not only differs technically with respect to that adopted by Anderson, but also offers distinct advantages compared with Anderson's method. More specifically and, as explained above, the range of error correction/concealment options available in Anderson's system is rather limited (see Anderson's claim 1, for example). Applicant's invention, on the other hand, enables use of far more varied and sophisticated correction/concealment methods which seek to recover or reconstruct the erroneous data rather than simply discarding it. This results in a much-improved level of error correction/concealment compared with Anderson's system and leads to enhanced perceptual quality of the decoded data (e.g. video, audio, etc.).

Since Watanabe in view of Anderson does not disclose or suggest each feature of Applicant's invention as claimed, claims 14, 42 and 64 are not unpatentable.

Claims 15-41, 43-63 and 65-73 should be allowable at least by reason of their respective dependencies.

3. Claims 24-25 are not unpatentable over Watanabe in view of Anderson and further in view of Park et al. ("Park") (U.S. Patent No. 6,034,968) under 35 U.S.C. §103(a) at least by reason of their respective dependencies, for the reasons stated above.

4. Claims 30 and 52 are not unpatentable over Watanabe in view of Anderson and further in view of Yamanaka et al.

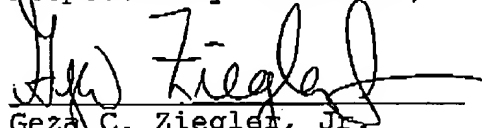
("Yamanaka") (U.S. Patent No. 5,878,041) under 35 U.S.C. §103(a) at least by reason of their respective dependencies.

5. Claims 34, 36-37, 56, 58-59 and 71 are not unpatentable over Watanabe in view of Anderson and further in view of Anderson et al. ("Anderson 771") (U.S. Patent No. 6,072,771) under 35 U.S.C. §103(a) at least by reason of their respective dependencies.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment of \$120.00 for a one month extension of time and any other fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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